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9/20/94*

**DATE** : September 12, 1994 at noon - 4:00 PM

**PLACE** : Ritz-Carlton Hotel, Arlington, VA

**ATTENDEES**: Representatives from the Carpet and Rug Institute (CRI), the CRI Technical Panel, the CRI Science Advisory Board, selected carpet manufacturers, the U.S. Environmental Protection Agency (EPA), the U.S. Consumer Product Safety Commission (CPSC), and the National Institute of Occupational Safety and Health (NIOSH)

**SUBJECT** : Carpet and Rug Institute (CRI) Research Program, Part III

### **Background**

This was the third in a series of meetings between the CRI, the Environmental Protection Agency (EPA), the Consumer Product Safety Commission (CPSC), and the National Institute of Occupational Safety and Health (NIOSH) to discuss a CRI research program to address the potential toxicity of carpets. The two previous meetings were held in September, 1993 and November, 1993. The meeting was requested by CRI to update the Federal agencies regarding industry progress on various research efforts and to learn more about on-going government activities related to carpet.

### **CRI Research Efforts**

The meeting primarily consisted of presentations of CRI-sponsored research plans and accomplishments followed by discussion. CPSC and NIOSH provided brief updates on related agency projects. CRI specifically covered the following topics.

Environ Report CRI contracted Environ Corporation to prepare a safety assessment of all known non-proprietary chemical components of carpet. This was in response to a request from interested Congressmen and their constituents for a list of all known chemicals found in carpet. A report was circulated to government representatives prior to the meeting. The study findings were presented by a Environ representative. CRI supplied Environ with a list of over 300 chemical constituents of carpet. Environ conducted a risk assessment for these chemicals employing what they considered to be highly conservative assumptions regarding exposure and safe levels of the compounds. They concluded that no cancer or toxicity health risks could be identified that would present a public health concern and that, because of the conservative nature of the assessment, further review of exposure and toxicity information was unlikely to uncover a health problem.

In the discussion of the report, government representatives questioned whether sufficient toxicity data was available on the

majority of the chemicals to support strong conclusions regarding the lack of public health concern. It was noted that very little toxicity data existed on endpoints relevant to human complaints such as sensory irritation and upper respiratory effects, neurotoxicity, and chemical sensitivity. It was argued that some of the critical exposure-related assumptions were non-conservative leaving the alleged highly conservative nature of the assessment in doubt.

Epidemiological Feasibility Study A CRI work group is developing a RFP (request for proposals) to investigate the feasibility of conducting an epidemiology study of carpet-related injuries. This would address issues such as the health endpoints to be studied, the most appropriate study design, the research instrument of choice (questionnaire, use of disease markers, etc.), the size and nature of the appropriate exposed and non-exposed populations, how to eliminate confounders and the need for pilot studies. CRI has shown a preference for a prospective rather than a retrospective study.

Discussions revolved around the merits and feasibility of a consumer satisfaction survey, mill workers and installers as appropriate study populations, and what health outcomes were most relevant to study. CPSC summarized its analysis of over 700 carpet complaints received from consumers as well as preliminary findings from 40 recent CPSC field investigations of selected carpet complaints. NIOSH summarized its study of 160 occupational sites (mostly office buildings) with indoor air complaints. The site investigations have been completed but the data are being evaluated and there are no findings to report, at this time. Carpet is one of the variables being studied as a possible cause of complaints.

Sensory Irritation Studies A representative from DuPont Haskell Laboratories presented a plan to study the sensory irritation potential of a subset of 50 volatile organic chemicals emitted from carpet. The study plan uses the ASTM mouse bioassay and is similar to the CPSC testing that will occur in FY 95. DuPont is now in the process of selecting chemicals to test. The first phase of the study will look at individual VOCs. The second phase of the CRI study will investigate the respiratory irritation of various mixtures of the five most potent irritants in order to determine chemical interactions.

During discussions, CRI described a failed attempt to obtain a concentrated mixture of VOCs derived from carpet (termed "carpet essence") using cryogenic trapping techniques. CPSC briefly summarized its RFP for sensory and pulmonary irritation of carpet materials and their constituent chemicals. DuPont and CPSC agreed to share their chemical test lists in order to avoid unnecessary duplication in testing. EPA/HERL (Health Effects Research Laboratories) offered to assist in the design of the VOC mixtures testing.

Other CRI Research CRI mentioned several other research areas which, due to time constraints, were not discussed in detail. Contract bids are being accepted to study TVOC (total volatile organic compound) emission variability between the same carpet product types produced from different finishing lines as well as variability in TVOC emissions from the same carpet types produced at various times from the same finishing line. CRI is considering studies to characterize TVOC emission profiles from carpet assemblies using different combinations of carpet/cushion/adhesive product types.

CRI indicated that they receive consumer inquiries through their toll free 800 number and that only about 5 percent of these are health complaints (they could not provide the number of complaints they had received). According to CRI, there is no discernable pattern to these complaints in terms of symptoms, product type, or manufacturer. Complaints are typically forwarded to the appropriate manufacturer/retailer for follow-up and resolution. CRI claims that class action law suits have impeded their plans to organize response teams that would conduct in-depth investigations of promising complaints. CRI also has had discussions with a team of physicians organized through Congressman Bernie Sanders from Vermont.

Further government/industry meetings CRI agreed to submit their research program in writing in order to facilitate government comment. Once this document is made available, the next meeting will be arranged to further discuss the program.